Set	Items	Description
S1	145	(ANTIBOD? OR IMMUNOGLOB?) AND (APO(W)B OR APO(W)A OR APO(W-)C OR APO(W)E) AND DELIPID?
S2	60	RD S1 (unique items)
S3	573	APOLIPOPROTEIN? AND PURIF? AND SDS
S4	267	RD S3 (unique items)
S5	65	S4 AND (APO(W)B OR APO(W)A OR APO(W)E OR APO(W)C)
S6	65	RD S5 (unique items)
S7	44	S6 AND PY<1995

? s ((apolipoptrotein? or apo(w)b or apo(w)a or apo(w)e or apo(w)c) and purif? and acryl?) and PY<1995

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Processed 10 of 26 files ...
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>>>One or more prefixes are unsupported
>>> or undefined in one or more files.
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Processed 20 of 26 files ...
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>>>File 399 processing for ACRYL? stopped at ACRYLOYLAMINOACETALDEHYDE
Processing
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Completed processing all files
1 APOLIPOPTROTEIN?
94446 APO
3723083 B
22402 APO(W)B
94446 APO
47699012 A
21567 APO(W)A
94446 APO
3313527 E
12958 APO(W)E
94446 APO
7008808 C
3824 APO(W)C
2053984 PURIF?
484550 ACRYL?
77816969 PY<1995
S8 14 ((APOLIPOPTROTEIN? OR APO(W)B OR APO(W)A OR APO(W)E OR APO(W)C) AND PURIF? AND ACRYL?) AND PY<1995
? rd s8

...completed examining records
S9 12 RD S8 (unique items)
? t s9/7/all

2/7/53 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

02990558 76252984
Lipid transport in the avian species. Part I. Isolation and characterization of apolipoproteins and major lipoprotein density classes of male turkey serum.
Kelley JL; Alaupovic P
Atherosclerosis (NETHERLANDS) Jul-Aug 1976, 24 (1-2) p155-75, ISSN 0021-9150 Journal Code: 95X
Languages: ENGLISH
Document type: JOURNAL ARTICLE
(1) Lipoproteins from the serum of male turkeys maintained on a normal diet were separated by sequential preparative ultracentrifugation into VLDL (d less than 1.006 g/ml), LDL (d = 1.006-1.063 g/ml), HDL (d = 1.063-1.21 g/ml) and VHDL (d greater than 1.21 g/ml). Lipoprotein density classes were characterized by analytical ultracentrifugation, agarose electrophoresis, immunodiffusion and immunoelectrophoresis, and by quantitative determination of protein, lipids and individual phosphatides. (2) HDL were the major density class representing 75% of the total lipoprotein content, LDL accounted for approximately 20% and VLDL for only 3-5% of the total lipoproteins. (3) VLDL were characterized by a relatively low content of glyceride (34%). Cholesterol esters were the major lipid (38%) of LDL, and the phospholipids (26%) of HDL. Glycerides of all major density classes consisted of equal amounts of triglycerides and diglycerides. (4) Phosphatidylcholine was the major phosphatide in all density classes. The composition of phosphatides was very similar in the VLDL and LDL, but it was different in the HDL. The ratio of phosphatidylcholine/sphingomyelin was higher in HDL than in VLDL and LD. (5) Immunological and electrophoretic studies showed that all three major density classes consisted of two lipoprotein families designated, in analogy to the human serum lipoprotein system [1], as LP-A and LP-B. The exception was HDL3 (d = 1.125-1.21 g/ml) which contained only LP-A. (6) ApoB was insoluble in aqueous buffers but could be solubilized after reduction and carboxymethylation. No C- or N-terminal amino acids were released by the usual chemical methods. The carbohydrate moiety of ApoB contained mannose, galactose and galactosamine. (7) ApoA consisted of a non-identical polypeptides designated in analogy to the human polypeptides as A-I and A-II. A-I was the major ApoA polypeptide and had a molecular weight of about 27,000. This polypeptide contained no half cystine, and the aspartic acid as the N-terminal and alanine as the C-terminal amino acids. A-II had a molecular weight of about 10,000, contained no half cystine and had alanine as the C-terminal amino acid. A-II showed no N-terminal amino acid by either dansylation, dinitrophenylation or Edman's procedure. Neither A-I nor A-II contained neutral sugars or hexosamines. (8) Concentrations of polypetides analogous to human ApoC, ApoD and "arginine-rich" polypeptide, if present, were too low for their unequivocal chemical characterization.

2/7/54 (Item 1 from file: 370)
DIALOG(R)File 370:Science

00500171 (USE 9 FOR FULLTEXT)
The Amyloid Precursor Protein of Alzheimer's Disease in the Reduction of Copper(II) to Copper(I)
Multhaup, Gerd; Schlicksupp, Andrea; Hesse, Lars; Beher, Dirk; Ruppert, Thomas; Masters, Colin L.; Beyreuther, Konrad

G. Multhaup, A. Schlicksupp, L. Hesse, D. Beher, K. Beyreuther, ZMBH-Center for Molecular Biology Heidelberg, University of Heidelberg, Im Neuenheimer Feld [redacted], D-69120 Heidelberg, Germany. [redacted]. Ruppert, Department of Virology, University of Heidelberg, D-69120 Heidelberg, Germany. ; C. L. Masters, Department of Pathology, University of Melbourne, Parkville, Victoria 3052, Australia, and Neuropathology Laboratory, Mental Health Research Institute of Victoria, Parkville, Victoria 3052, Australia.
Science Vol. 271 5254 pp. 1406
Publication Date: 3-08-1996 (960308) Publication Year: 1996
Document Type: Journal ISSN: 0036-8075
Language: English
Section Heading: Reports
Word Count: 2920

Abstract: The transition metal ion copper(II) has a critical role in chronic neurologic diseases. The amyloid precursor protein (APP) of Alzheimer's disease or a synthetic peptide representing its copper-binding site reduced bound copper(II) to copper(I). This copper ion-mediated redox reaction led to disulfide bond formation in APP, which indicated that free sulfhydryl groups of APP were involved. Neither superoxide nor hydrogen peroxide had an effect on the kinetics of copper(II) reduction. The reduction of copper(II) to copper(I) by APP involves an electron-transfer reaction and could enhance the production of hydroxyl radicals, which could then attack nearby sites. Thus, copper-mediated toxicity may contribute to neurodegeneration in Alzheimer's disease.

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5. Kounnas, M. Z., et.al. Cell, 82 1995, 331 ;
6. Bush, A. I., et.al. J. Biol. Chem., 268 1993, 16109 ;
7. Hesse, L., Beher, D., Masters, C. L., Multhaup, G., FEBS Lett., 349 1994, 109 ;

2/7/52 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03011744 78187460
Studies of the cyanogen bromide fragments of the apoprotein of human serum low density lipoproteins.
Deutsch DG; Heinrikson RL; Foreman J; Scanu AM
Biochimica et biophysica acta (NETHERLANDS) May 25 1978, 529 (2) p342-50, ISSN 0006-3002 Journal Code: A0W
Languages: ENGLISH
Document type: JOURNAL ARTICLE
The apoprotein of human serum low density lipoproteins was reduced and carboxymethylated and then cleaved by cyanogen bromide (CNBr). The peptides which were produced from this cleavage (90% yield, based upon loss of methionine) were resolved by SDS polyacrylamide gel electrophoresis into 10 major bands, each having an amino acid composition very similar to that of intact reduced and carboxymethylated LDL apoprotein. The fractionation of the CNBr fragments by preparative gel filtration was dependent upon the nature of the eluting solvent. NH4OH and SDS solvents eluted all of the material in the void volume. In 6 M guanidinium chloride solvents several peaks were, however, resolved, each having an amino acid composition similar to that of the unfractionated products. Whereas no NH2-terminal was detected in reduced and carboxylmethylated LDL apoprotein, automated Edman degradation of the protein following treatment with CNBr revealed the presence of several NH2-termini. The results suggest that LDL apoprotein may be made of segments of, at least, very similar amino acid composition and that both the protein itself and derivative fragments have a great

3021392 79145352

Apoproteins of avian very low density lipoprotein: demonstration of a single high molecular weight apoprotein.

Williams DL

Biochemistry (UNITED STATES) Mar 20 1979, 18 (6) p1056-63, ISSN 0006-2960 Journal Code: A0G

Languages: ENGLISH

Document type: JOURNAL ARTICLE

The high molecular weight apoproteins of very low density lipoprotein (VLDL) were compared after preparation of VLDL from plasma and sera of diethylstilbestrol-treated roosters. When prepared from plasma with adequate control of endogenous proteolytic activity, VLDL contained a single high molecular weight apoprotein (apo-VLDL-B) as judged by electrophoresis in polyacrylamide gels containing sodium dodecyl sulfate. Serum VLDL contained multiple apoprotein species, the largest of which corresponded to apo-VLDL-B. Immunological analyses showed that the multiple apoproteins of serum VLDL were quantitatively and qualitatively indistinguishable from plasma apo-VLDL-B. These data indicate that apo-VLDL-B can be cleaved during VLDL isolation to produce an apparent heterogeneity of high molecular weight apoproteins. The molecular weight of plasma apo-VLDL-B was estimated to be 350 000. This protein was stable to reduction and S-carboxymethylation and showed no association with apo-VLDL-II [Chan, L., Jackson, R.L., O'Malley, B. W., & Means, A.R. (1976) J. Clin. Invest. 58, 368] through disulfide linkage. Apo-VLDL-B and apo-VLDL-II represented 54% and 46%, respectively, of the total VLDL protein recovered following gel filtration chromatography in sodium dodecyl sulfate. Protein recovery in the chromatographic analyses (92%) was sufficient to conclude that apo-VLDL-B and apo-VLDL-II are the major and possibly the only apoproteins of chicken VLDL. The molar ratio of the apo-VLDL-II m

Isolation and characterization of three monoclonal antibodies to human serum low density lipoprotein apoprotein B.

Aggerbeck LP; Caron F; Lachacinski N; Bouma ME

Biochimie (FRANCE) Apr 1986, 68 (4) p531-41, ISSN 0300-9084 Journal Code: A14

Contract/Grant No.: 5-PO1 HL-18577-07, HL, NHLBI

Languages: ENGLISH

Document type: JOURNAL ARTICLE

Human serum low density lipoprotein (LDL) is a large (Mr = 2-3 X 10(6), complex particle composed of lipid, protein and carbohydrate. We obtained about 40 mouse spleen-myeloma hybrid cell lines which produce antibodies against LDL. Three of them, SC2, SC3 and SC10, have been cloned and subcloned and their antibody products characterized. They recognize three non-overlapping epitopes in native LDL. Two of them, SC3 and SC10, also are capable of recognizing very low density lipoprotein, (VLDL), whereas SC2 reacts only weakly with VLDL. All three antigenic determinants remain intact, and accessible to antibodies on the LDL protein apo B, prepared by delipidation in a 'non-denaturing' detergent, sodium deoxycholate. However, apo B prepared by organic solvent, ether-ethanol, or sodium dodecyl sulfate (SDS) delipidation, while reacting strongly with SC10, is only poorly recognized by SC2 or SC3. Proteolysis of LDL with trypsin, chymotrypsin, Staphylococcus aureus protease, papain or thermolysin gives, in each case, several non-identical protein fragments which are separable by SDS-polyacrylamide gel electrophoresis. Upon immunoblotting, some of these fragments are now recognized by either SC3 or SC10 but not SC2, some are recognized by both SC3 and SC10, and others are immunologically unreactive. The protein bands that are separated by SDS gel electrophoresis are composed of several non-identical fragments and contain the antigenic sites to differing degrees. Some of the immunologically reactive fragments do not appear to contain carbohydrate. Reduction and carboxymethylation do not destroy the immunoreactivity of LDL toward any of the antibodies; however, modification of lysine residues by citraconic anhydride markedly diminishes the reactivity of LDL toward SC3. It is likely that the two antibodies SC3 and SC10 are directed against different linear amino acid sequences or very stable domains, whereas the third, SC2, is directed against a more fragile conformational domain of apo B.

2/7/51 (Item 7 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

03021392 79145352

Apoproteins of avian very low density lipoprotein: demonstration of a single high molecular weight apoprotein.

Williams DL

Biochemistry (UNITED STATES) Mar 20 1979, 18 (6) p1056-63, ISSN 0006-2960 Journal Code: A0G

Languages: ENGLISH

Document type: JOURNAL ARTICLE

The high molecular weight apoproteins of very low density lipoprotein (VLDL) were compared after preparation of VLDL from plasma and sera of diethylstilbestrol-treated roosters. When prepared from plasma with adequate control of endogenous proteolytic activity, VLDL contained a single high molecular weight apoprotein (apo-VLDL-B) as judged by electrophoresis in polyacrylamide gels containing sodium dodecyl sulfate. Serum VLDL contained multiple apoprotein species, the largest of which corresponded to apo-VLDL-B. Immunological analyses showed that the multiple apoproteins of serum VLDL were quantitatively and qualitatively

indistinguishable from plasma apo-VLDL-B. These data indicate that apo-VLDL-B can be cleaved during VLDL isolation to produce an apparent heterogeneity of high molecular weight apoproteins. The molecular weight of plasma apo-VLDL-B was estimated to be 350 000. This protein was stable to reduction and S-carboxymethylation and showed no association with apo-VLDL-II [Chan, L., Jackson, R.L., O'Malley, B. W., & Means, A.R. (1976) J. Clin. Invest. 58, 368] through disulfide linkage. Apo-VLDL-B and apo-VLDL-II represented 54% and 46%, respectively, of the total VLDL protein recovered following gel filtration chromatography in sodium dodecyl sulfate. Protein recovery in the chromatographic analyses (92%) was sufficient to conclude that apo-VLDL-B and apo-VLDL-II are the major and possibly the only apoproteins of chicken VLDL. The molar ratio of the apo-VLDL-II monomer to apo-VLDL-B was estimated to be 32.

5811300 86296811
Isolation and characterization of three monoclonal antibodies to human serum low density lipoprotein apoprotein B.
Aggerbeck LP; Caron F; Lachacinski N; Bouma ME
Biochimie (FRANCE) Apr 1986, 68 (4) p531-41, ISSN 0300-9084 Journal Code: A14
Contract/Grant No.: 5-PO1 HL-18577-07, HL, NHLBI
Languages: ENGLISH
Document type: JOURNAL ARTICLE

Human serum low density lipoprotein (LDL) is a large (Mr = 2-3 X 10(6), complex particle composed of lipid, protein and carbohydrate. We obtained about 40 mouse spleen-myeloma hybrid cell lines which produce antibodies against LDL. Three of them, SC2, SC3 and SC10, have been cloned and subcloned and their antibody products characterized. They recognize three non-overlapping epitopes in native LDL. Two of them, SC3 and SC10, also are capable of recognizing very low density lipoprotein, (VLDL), whereas SC2 reacts only weakly with VLDL. All three antigenic determinants remain intact, and accessible to antibodies on the LDL protein apo B, prepared by delipidation in a 'non-denaturing' detergent, sodium deoxycholate. However, apo B prepared by organic solvent, ether-ethanol, or sodium dodecyl sulfate (SDS) delipidation, while reacting strongly with SC10, is only poorly recognized by SC2 or SC3. Proteolysis of LDL with trypsin, chymotrypsin, Staphylococcus aureus protease, papain or thermolysin gives, in each case, several non-identical protein fragments which are separable by SDS-polyacrylamide gel electrophoresis. Upon immunoblotting, some of these fragments are now recognized by either SC3 or SC10 but not SC2, some are recognized by both SC3 and SC10, and others are immunologically unreactive. The protein bands that are separated by SDS gel electrophoresis are composed of several non-identical fragments and contain the antigenic sites to differing degrees. Some of the immunologically reactive fragments do not appear to contain carbohydrate. Reduction and carboxymethylation do not destroy the immunoreactivity of LDL toward any of the antibodies; however, modification of lysine residues by citraconic anhydride markedly diminishes the reactivity of LDL toward SC3. It is likely that the two antibodies SC3 and SC10 are directed against different linear amino acid sequences or very stable domains, whereas the third, SC2, is directed against a more fragile conformational domain of apo B.

2/7/51 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

03021392 79145352
Apoproteins of avian very low density lipoprotein: demonstration of a single high molecular weight apoprotein.
Williams DL
Biochemistry (UNITED STATES) Mar 20 1979, 18 (6) p1056-63, ISSN 0006-2960 Journal Code: A0G
Languages: ENGLISH
Document type: JOURNAL ARTICLE

The high molecular weight apoproteins of very low density lipoprotein (VLDL) were compared after preparation of VLDL from plasma and sera of diethylstilbestrol-treated roosters. When prepared from plasma with adequate control of endogenous proteolytic activity, VLDL contained a single high molecular weight apoprotein (apo-VLDL-B) as judged by electrophoresis in polyacrylamide gels containing sodium dodecyl sulfate. Serum VLDL contained multiple apoprotein species, the largest of which corresponded to apo-VLDL-B. Immunological analyses showed that the multiple

apoproteins of serum VLDL were quantitatively and qualitatively indistinguishable from plasma apo-VLDL-B. These data indicate that apo-VLDL-B can be cleaved during VLDL isolation to produce an apparent heterogeneity of high molecular weight apoproteins. The molecular weight of plasma apo-VLDL-B was estimated to be 350 000. This protein was stable to reduction and S-carboxymethylation and showed no association with apo-VLDL-II [Chan, L., Jackson, R.L., O'Malley, B. W., & Means, A.R. (1976) J. Clin. Invest. 58, 368] through disulfide linkage. Apo-VLDL-B and apo-VLDL-II represented 54% and 46%, respectively, of the total VLDL protein recovered following gel filtration chromatography in sodium dodecyl sulfate. Protein recovery in the chromatographic analyses (92%) was sufficient to conclude that apo-VLDL-B and apo-VLDL-II are the major and possibly the only apoproteins of chicken VLDL. The molar ratio of the apo-VLDL-II monomer to apo-VLDL-B was estimated to be 32.

2/7/43 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

09525930 PASCAL No.: 91-0316343
Kinetics and mechanism of transfer of reduced and carboxymethylated apolipoprotein A-II between phospholipid vesicles
IBDAH A A; LUND-KATZ S; PHILLIPS M C
Medical coll. Pensylvania, dep. biochemistry physiology, Philadelphia PA 19129, USA
Journal: Biochemistry (Easton), 1990, 29 (14) 3472-3479
ISSN: 0006-2960 Availability: INIST-9758; 354000004028010080/NUM
No. of Refs.: 43 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: USA
Language: English

2/7/42 (Item 2 from file: 103)
DIALOG(R)File 103:Energy SciTec

00392617 ERA-03-043622; EDB-78-091797
Title: Sedimentation behavior of native and reduced apolipoprotein A-11 from human high density lipoproteins
Author(s): Teng, T.L.; Barbeau, D.L.; Scanu, A.M.
Affiliation: Univ. of Chicago
Source: Biochemistry (United States) v 17:1. Coden: BICHA
Publication Date: 10 Jan 1978 p 17-21
Language: English
Abstract: The solution properties of human serum apolipoprotein A-II, both in the native and in the reduced forms, were investigated by the technique of sedimentation equilibrium in the analytical ultracentrifuge. For both proteins, the apparent weight average molecular weights determined in neutral buffer systems were found to be dependent on protein concentration and invariant with the rotor speeds used (16,000 to 44,000 rpm) indicating a reversible self-association. These results were also found to be independent of temperature between 5 and 30/sup 0/C. The pattern of self-association of native apolipoprotein A-II could best be described by a monomer-dimer-trimer equilibrium, in agreement with previously reported data (Vitello, L. B., and Scanu, A. M. (1976), Biochemistry 15, 1161). The self-association pattern of apolipoprotein A-II reduced in the presence of 50 mM dithiothreitol conformed with a monomer-dimer-tetramer equilibrium similar to that reported for the native single chain apolipoprotein A-II of the rhesus monkey (Barbeau, D. L., et al. (1977), J. Biol. Chem. 252, 6745), but differing significantly from that reported for the reduced and carboxymethylated human product (Osborne, J. C., et al. (1975), Biochemistry 14, 3741).

2/7/37 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

02220976 EMBASE No: 1982076137
Thermodynamics of lipid-protein association. The free energy of association of lecithin with reduced and carboxymethylated apolipoprotein A-II from human plasma high density lipoprotein
Pownall H.J.; Hickson D.; Gotto Jr. A.M.
Dept. Med., Baylor Coll. Med., Houston, TX 77030 United States
Journal of Biological Chemistry (J. BIOL. CHEM.) (United States) 1981, 256/19 (9849-9854)
CODEN: JBCHA
DOCUMENT TYPE: Journal
LANGUAGE: ENGLISH

2/7/34 (Item 1 from file: 71)
DIALOG(R)File 71:ELSEVIER BIOBASE

00120907 94109508
Characterization of monoclonal antibodies to apolipoprotein(a) and development of a chemiluminescent assay for phenotyping apolipoprotein(a) isomorphs
Theolis Jr. R.; Breckenridge W.C.
ADDRESS: W.C. Breckenridge, Department of Biochemistry, Dalhousie University, Halifax, NS B3H 4H7, Canada
Journal: Journal of Immunological Methods, 172/1 (43-58), 1994, Netherlands
PUBLICATION DATE: 19940000
CODEN: JIMMB
ISSN: 0022-1759
DOCUMENT TYPE: Article
LANGUAGES: English SUMMARY LANGUAGES: English

Apo(a) is linked to Lp(a) through non-covalent interactions and disulfide bond with apo B. Monoclonal antibodies were raised to reduced and carboxymethylated apo(a) in order to study apo(a) interaction with apo B and to develop a sensitive immunoassay for apo(a) and Lp(a). Nine antibodies were characterized for overlapping epitopes and for single or multiple binding sites on native Lp(a) or denatured apo(a). All monoclonal antibodies bound to Lp(a) and denatured apo(a) when these preparations were absorbed on polystyrene. In contrast, three antibodies (3D1, 4B4 and 6H9) failed to react with Lp(a) in solution, in a competitive displacement assay. This observation indicates that these epitopes are masked in native Lp(a). Cross-reactivity with plasminogen was noted for only one monoclonal antibody (4B4). An assay of competitive binding to immobilized Lp(a) or apo(a) revealed that four distinct groups of epitopes were recognized by the monoclonal antibodies: (A) 1G7, 3A5 partially overlapping with 8B6, (B) 5C4, 5B10 partially overlapping with 7C1, (C) 3D1 overlapping with 6H9, and (D) 4B4. A double antibody sandwich assay, using homologous and heterologous combinations of monoclonal antibodies, showed that monoclonal antibodies 1G7, 3A5 and 8B6 of group A, and 5C4 and 5B10 of group B recognized multiple epitopes on Lp(a) while all other antibodies (3D1, 6H9, 4B4) recognized single epitopes. Based on reports of others for the sequence of apo(a), deduced from the cDNA of the human apo(a) gene, it is proposed that monoclonal antibodies which recognize multiple epitopes are directed toward the repetitive kringle 4-like domains of apo(a) while those recognizing single epitopes are probably directed to the kringle 5 or the protease-like domain of apo(a). Monoclonal antibodies which recognized repetitive epitopes were used for the development of a highly sensitive chemiluminescent immunoblotting system for detection of apo(a) isomorphs after resolving plasma protein by polyacrylamide (4%) gel electrophoresis in the presence of sodium dodecyl sulfate. Seven relatively common isomorphs were identified and readily resolved as a mixture. The detection limit was 5-10 pg for each apo(a) isomorph. The high sensitivity allowed for the detection of isomorphs present in over 99% of plasma samples despite a wide range of ratios of apo(a) isomorphs.

2/7/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05663232 BIOSIS NO.: 000084011637
APOLIPOPROTEIN B IS A GLOBULAR PROTEIN MORPHOLOGICAL STUDIES BY ELECTRON MICROSCOPY
AUTHOR: LEE D M; STIERS D L; MOK T
AUTHOR ADDRESS: LIPOPROTEIN AND ATHEROSCLEROSIS RES. PROGRAM, OKLAHOMA MED. RES. FOUNDATION, UNIV. OKLAHOMA HEALTH SCIENCES CENTER, OKLAHOMA CITY, OKLAHOMA CITY, OKLAHOMA 73104.
JOURNAL: BIOCHEM BIOPHYS RES COMMUN 144 (1). 1987. 210-216.
FULL JOURNAL NAME: Biochemical and Biophysical Research Communications
CODEN: BBRCA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Water-soluble apolipoportein B was prepared from fresh plasma by quick isolation of low density lipoproteins and immediate delipidization under non-oxidative conditions. The denatured protein in 6 M guanidine .cntdot. HCl was reduced and carboxymethylated, dialyzed through 6 M urea/preservatives and to 1% ammonium acetate/0.05% EDTA/0.13% .xi.-amino caproic acid, pH 7.3 under N2 at 4.degree.C. The morphological studies were carried out by electron microscopy with negative staining and freeze fracture. Both these techniques showed that apolipoprotein B is a globular protein with average diameter of 11.48 .+-. 1.25 nm (n = 978). The M.W. of apolipoprotein B calculated from this particle size was comparable to that from amino acid sequence.

03636347 BIOSIS NO.: 000074051924
RADIO IMMUNOASSAY OF APO LIPO PROTEIN A-II
AUTHOR: MUSLINER T A; GARNER P A; HENDERSON L O; HERBERT P N
AUTHOR ADDRESS: MIRIAM HOSP., 164 SUMMIT AVE., PROVIDENCE, RHODE ISLAND 02906.
JOURNAL: ARTERIOSCLEROSIS 2 (2). 1982. 160-169.
FULL JOURNAL NAME: Arteriosclerosis
CODEN: ARTRD
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: A double antibody radioimmunoassay was developed for apolipoprotein A-II (apo A-II), 1 of the 2 major apoproteins of human high density lipoproteins (HDL) [associated with predisposition to atherosclerosis development]. Apo A-II contains 2 identical polypeptide chains linked by a disulfide bond. A specific antiserum was raised in sheep. Tracer apo A-II was radiolabeled with 125I by the Bolton-Hunter technique. Reduction and carboxymethylation of apo A-II approximately doubled its immunoreactivity. Since normal sera contained small amounts of monomeric apo A-II, this represented 1 potential source of error in the radioimmunoassay. Inclusion of 0.1 M sodium cholate in the assay system, led to identical immunoreactivity of dimeric apo A-II and the reduced and carboxymethylated protein. Radioimmunoassay using sheep anti-apo A-II detected 75% to 85% of the apo A-II contained in serum or HDL. Masked antigenic sites could be exposed by organic solvent extraction or, more simply, by dilution of serum samples in the buffer containing 0.1 M sodium cholate. Serum levels of apo A-II were measured in a population of consecutively and prospectively selected free-living subjects between 30-69 yr of age. Levels were significantly ($P < 0.005$) higher in females (no. = 201; 42.0 .+-. 10.3 mg/dl) than in males (no. = 189; 39.0 .+-. 8.4 mg/dl). Serum apo A-II levels correlated significantly with HDL-cholesterol levels but less strongly than apo A-I, the other

09363647 BIOSIS NO.: 199497372017
Characterization of monoclonal antibodies to apolipoprotein (a) and development of a chemiluminescent assay for phenotyping apolipoprotein (a) isomorphs.
AUTHOR: Theolis R Jr; Breckenridge W Carl(a)
AUTHOR ADDRESS: (a)Dep. Biochem., Dalhousie Univ., Halifax, NS B3H 4H7** Canada
JOURNAL: Journal of Immunological Methods 172 (1):p43-58 1994
ISSN: 0022-1759
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Apo(a) is linked to Lp(a) through non-covalent interactions and disulfide bond with apo B. Monoclonal antibodies were raised to reduced and carboxymethylated apo(a) in order to study apo(a) interaction with apo B and to develop a sensitive immunoassay for apo(a) and Lp(a). Nine antibodies were characterized for overlapping epitopes and for single or multiple binding sites on native Lp(a) or denatured apo(a). All monoclonal antibodies bound to Lp(a) and denatured apo(a) when these preparations were absorbed on polystyrene. In contrast, three antibodies (3D1, 4B4 and 6H9) failed to react with Lp(a) in solution, in a competitive displacement assay. This observation indicates that these epitopes are masked in native Lp(a). Cross-reactivity with plasminogen was noted for only one monoclonal antibody (4B4). An assay of competitive binding to immobilized Lp(a) or apo(a) revealed that four distinct groups of epitopes were recognized by the monoclonal antibodies: (A) 1G7, 3A5 partially overlapping with 8B6, (B) 5C4, 5B10 partially overlapping with 7C1, (C) 3D1 overlapping with 6H9, and (D) 4B4. A double antibody sandwich assay, using homologous and heterologous combinations of monoclonal antibodies, showed that monoclonal antibodies 1G7, 3A5 and 8B6 of group A, and 5C4 and 5B10 of group B recognized multiple epitopes on Lp(a) while all other antibodies (3D1, 6H9, 4B4) recognized single epitopes. Based on reports of others for the sequence of apo(a), deduced from the cDNA of the human apo(a) gene, it is proposed that monoclonal antibodies which recognize multiple epitopes are directed toward the repetitive kringle 4-like domains of apo(a) while those recognizing single epitopes are probably directed to the kringle 5 or the protease-like domain of apo(a). Monoclonal antibodies which recognized repetitive epitopes were used for the development of a highly sensitive chemiluminescent immunoblotting system for detection of apo(a) isomorphs after resolving plasma protein by polyacrylamide (4%) gel electrophoresis in the presence of sodium dodecyl sulfate. Seven relatively common isomorphs were identified and readily resolved as a mixture. The detection limit was 5-10 pg for each apo(a) isomorph. The high sensitivity allowed for the detection of isomorphs present in over 99% of plasma samples despite a wide range of ratios of apo(a) isomorphs.

2/7/13 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

05663232 BIOSIS NO.: 000084011637
APOLIPOPROTEIN B IS A GLOBULAR PROTEIN MORPHOLOGICAL STUDIES BY ELECTRON MICROSCOPY
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JOURNAL: BIOCHEM BIOPHYS RES COMMUN 144 (1). 1987. 210-216.
FULL JOURNAL NAME: Biochemical and Biophysical Research Communications
CODEN: BBRCA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Water-soluble apolipoportein B was prepared from fresh plasma by quick isolation of low density lipoproteins and immediate delipidization under non-oxidative conditions. The denatured protein in 6 M guanidine .cntdot. HCl was reduced and carboxymethylated, dialyzed through 6 M urea/preservatives and to 1% ammonium acetate/0.05% EDTA/0.13% .xi.-amino caproic acid, pH 7.3 under N2 at 4.degree.C. The morphological studies were carried out by electron microscopy with negative staining and freeze fracture. Both these techniques showed that apolipoprotein B is a globular protein with average diameter of 11.48 .+-. 1.25 nm (n = 978). The M.W. of apolipoprotein B calculated from this particle size was comparable to that from amino acid sequence.

5200946 BIOSIS NO.: 000082041568
CONFORMATIONAL STUDIES OF LIPOPROTEIN B AND APOLIPOPROTEIN B EFFECTS OF DISULFIDE REDUCING AGENTS SULFHYDRYL BLOCKING AGENT DENATURING AGENTS PH AND STORAGE
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JOURNAL: BIOCHIM BIOPHYS ACTA 876 (3). 1986. 460-468.
FULL JOURNAL NAME: Biochimica et Biophysica Acta
CODEN: BBACA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

03533695 BIOSIS NO.: 000073036775
PROPERTIES OF APO LIPO PROTEIN B IN UREA AND IN AQUEOUS BUFFERS THE USE OF GLUTATHIONE AND NITROGEN IN ITS SOLUBILIZATION
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JOURNAL: BIOCHIM BIOPHYS ACTA 666 (1). 1981. 133-146.
FULL JOURNAL NAME: Biochimica et Biophysica Acta
CODEN: BBACA
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

ABSTRACT: Based on the assumption that lipid peroxidation of low density lipoproteins (LDL) may be the main cause of the insolubility of the major protein moiety, apolipoprotein B, a procedure was developed which by minimizing possible oxidation conditions throughout the isolation, fractionation and delipidization of [human] LDL2 resulted in apolipoprotein B preparations totally soluble in 6 M urea and aqueous buffers. In addition to usual preservatives.sbd.EDTA, antibiotics and protease inhibitor.sbd.the procedure includes the use of antioxidant glutathione and N2. The LDL2 were delipidized wet with ethanol and diethyl ether, the latter being freed of peroxides before use. The LDL2 apolipoprotein obtained was solubilized totally in 6 M guanidine-HCl buffer containing the reducing agent dithiothreitol. After carboxymethylation the reduced and carboxymethylated (RCM) LDL2 apolipoprotein was purified by gel filtration to yield pure RCM apolipoprotein B. The latter was transferred to solution in 6 M urea by dialysis and further transferred to aqueous buffers, at lower protein concentrations. The solutions remained clear throughout. A possible key to the solubility of apolipoprotein B may lie in minimizing all potential sources of oxidation. RCM apolipoprotein B soluble in aqueous buffers was identical immunochemically and electrophoretically to the RCM apolipoprotein B soluble in 6 M urea. The RCM apolipoprotein B gave a single precipitin line at low protein concentrations (0.1-1 mg/ml) against specific antibodies and 2 precipitin lines at higher concentrations (2-4 mg/ml). The behavior of RCM apolipoprotein B on SDS-polyacrylamide gel electrophoresis was anomalous, the apparent MW varying inversely with the total acrylamide monomer concentration. On SDS-urea-polyacrylamide gel electrophoresis, it moved as a single band of constant Mr [relative MW], 260,000. On basic urea-polyacrylamide gel electrophoresis, RCM apolipoprotein B was apparently heterogeneous, displaying at least 2 bands. On gel filtration in Sepharose CL-6B in 6 M guanidine-HCl, RCM apolipoprotein B eluted in 2 incompletely resolved peaks of apparent Mr 250,000 and 150,000. Once purified and in solution, RCM apolipoprotein B continued to demonstrate a marked O2 sensitivity, resulting in protein cleavage and a reduced immunochemical reactivity. Optimal conditions for the handling and storage of RCM apolipoprotein B were studied. Using a combination of several antioxidants, RCM apolipoprotein B could be stored for 6 mo. wihout degradation.

2/7/44 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

01026491 PASCAL No.: 76-0223366

THE THERMODYNAMICS OF THE SELF-ASSOCIATION OF THE REDUCED AND CARBOXYMETHYLATED FORM OF APOA-II FROM THE HUMAN HIGH DENSITY LIPOPROTEIN COMPLEX.

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Document Type: P (SERIAL) ; A (ANALYTIC)
Country of Publication: USA
Language: ENGLISH

ETUDE THERMODYNAMIQUE DE L'AUTOASSOCIATION DE LA FORME REDUITE ET CARBOXYMETHYLEE DE L'APO A-II DES HDL HUMAINES, PAR MESURES D'ELLIPTICITE A PH NEUTRE. L'ASSOCIATION ENTRAINE DES MODIFICATIONS DE LA STRUCTURE SECONDAIRE ET TERTIAIRE; ELLE EST ENDOTHERMIQUE A BASSE TEMPERATURE ET